

A Comparative Analysis of Agricultural Hashtags on Twitter

Megan Besancon

besancon.16@osu.edu

Department of Agricultural Communication

Expected Date of Graduation: May 7, 2017

Project Advisors

Dr. Emily Buck

Associate Professor

Department of Agricultural Communication

The Ohio State University

203 Agricultural Administration Building

Columbus, OH 43210

buck.210@osu.edu

2017

Table of Contents

Abstract	3
Introduction.....	3
Problem Statement	5
Objectives	6
Materials and Methods.....	6
Results and Discussion	7
Conclusion	10
Recommendations	11
Bibliography	11
Appendix.....	13

A Comparative Analysis of Agricultural Hashtags on Twitter

Abstract

Hashtags are used on various social media platforms, particularly Twitter, in order to make messages searchable. Through the use of hashtags, individuals and organizations in agriculture tell the story of agriculture by sharing information to educate the public. However, these hashtags can be “hijacked” by non-agricultural sources to share unintended, and often negative messages about food safety, food production, and animal welfare. Hijacked hashtags can ruin the credibility of farmers and agricultural organizations trying to utilize them to educate the public. The researcher sought to understand whether the hashtags #farm365 and #harvest16 were being used by the intended audience to promote agriculture. The researcher analyzed the two hashtags using Sysomos MAP software during a one-month period. Analysis of these hashtags showed that agricultural producers primarily used #harvest16 to showcase agriculture in a positive way, while individuals not directly involved in the agricultural industry used #farm365 to demote agriculture. The results of this study show that there are several demographic differences between the two groups using these hashtags. Agricultural producers should address the concerns raised by those using #farm365 in order to inform consumers and return the hashtag to its intended purpose of showing agriculture in a positive light.

Introduction

According to the American Farm Bureau Federation (2015), farm and ranch families make up only two percent of the U.S. population. The average consumer is increasingly disconnected from the origin of his or her food, so producers must bridge this gap by educating consumers (Meyers et al. 2015). With the rise of technology, it has become imperative for agricultural

businesses and individual producers to successfully spread information about their products and services through the use of social media (Meyers et al. 2015). One of the most common ways this is done is through the use of hashtags on various social media platforms, such as Twitter. According to the Twitter Help Center, “the # symbol, called a hashtag, is used to mark keywords or topics in a Tweet.” Hashtags were created by Twitter to categorize messages (*Help Center*, 2016). This allows all users on Twitter to find topics more easily, with popular hashtags referred to as Trending Topics (*Help Center* 2016). Because of this, producers and agricultural businesses have the chance to use hashtags to promote agriculture and educate consumers.

Agricultural organizations use various social media platforms to reach out to their audiences (Moore et al. 2015). One such platform is blogging, which allowed agricultural industry organizations to interact with their consumers (Moore et al. 2015). Moore et al. (2015) found that these organizations created blogs in order to use the newest technology and interact with a greater number of people. Given this information, it stands to reason that agricultural commodity groups would use Twitter, a form of microblogging, to communicate with their target audience on a more intimate level.

Previously, research has been conducted on the use of Twitter as a means of news dissemination by Wagler and Cannon (2015). Wagler and Cannon (2015) used the 2012-2013 drought in Nebraska as a case study to evaluate the conversations on Twitter concerning the drought. They concluded that educational institutions should take advantage of the opportunity to disseminate information, as well as monitor and participate in public discussions (Wagler & Cannon, 2015). Organizations can also use website analytics to strategize effective approaches to engage with audiences to discuss issues in a more personal way (Wagler & Cannon, 2015). Twitter allows

producers to educate consumers on a more personal level by putting a face to agriculture in order to promote the industry.

This idea is further supported by research conducted by Pritchett et al. (2016) on relationships between participant satisfaction and perceived social presence during agricultural conversations on Twitter. Pritchett et al. found that both positive and negative relationships exist between social presence and satisfaction. Pritchett et al. (2016) determined that agricultural communicators should create a social presence and build virtual relationships. Therefore, it is important for producers to share information with their target audience in an approachable manner. This can be achieved by using hashtags on Twitter to share and spread messages.

However, there are some downfalls to the use of hashtags. Research by Sanderson et al. (2017) found that hashtags can be ‘hijacked’. Sanderson et al. (2017) conducted a case study of the Florida State University “#AskJameis” campaign, in which the hashtag was hijacked and used to criticize and mock the institution and Jameis Winston, the quarterback for the football team at that time. The results of the case study showed that audiences can take over conversations and move them into unintended directions on social media.

Problem Statement

As consumers become increasingly disconnected from the agricultural industry, it is imperative for producers to promote agriculture and educate consumers. Some producers do this by posting Tweets with hashtags to share an intimate look at agriculture and life on the farm. However, hashtags can be “hijacked” and used to share unintended messages. While research has shown this in other areas, little to none have looked to see if this is happening in agriculture as well.

Research is needed to determine whether well-established agricultural hashtags are being used by producers to promote the agricultural industry or by opponents to spread other messages.

Objectives

The objective of this study was to compare and analyze the use of agricultural hashtags on Twitter to determine whether they are being used to promote or demote agriculture. This study was designed to assess the following:

- Identify and understand the various themes addressed in tweets with the hashtags #farm365 and #harvest16.
- Identify other hashtags popularly used with #farm365 and #harvest16
- Determine who is leading the discussion with the hashtags #farm365 and #harvest16

Materials and Methods

For this study, two agricultural hashtags were analyzed during a one month period using Sysomos Media Analysis Platform, a data aggregator of social media. The hashtags chosen were #harvest16 and #farm365 because these are well established hashtags used by producers in the agricultural industry. The hashtag #harvest16 is unique to the 2016 harvest while #farm365 is a hashtag used by those in the agricultural industry to show that individuals farm 365 days a year and that farming is a fulltime job. The time period was narrowed to September 1, 2016 to October 1, 2016 because it is during peak of the harvest season for grain crop producers. Each hashtag was searched individually during this time period. The following searches were used:

- Query 1: "farm365" between 01-Sep-2016 and 01-Oct-2016
- Query 2: "harvest16" between 01-Sep-2016 and 01-Oct-2016

Sysomos MAP produced a plethora of data to analyze from each search. Data was gathered on the top tweets for each hashtags, which was determined as the most retweeted tweets. Sysomos MAP produced data on the top hashtags associated with each search. This data was analyzed and sorted in order to determine the overall themes of the messages shared through the hashtags.

Results and Discussion

The data retrieved from Sysomos MAP from September 1, 2016 – October 1, 2016 can be seen in the figures below. The hashtag #farm365 was mentioned 20,810 times, while the hashtag #harvest16 was mentioned 31,500 times during the one-month time period. The majority of women used the hashtag #farm365, while the majority of men used the hashtag #harvest16, as shown in Figures 1 and 2 below. Both of these hashtags were used primarily in the United States, Canada, and the UK.

Figure 1. Data from Query 1: "farm365" between 01-Sep-2016 and 01-Oct-2016

Tweets

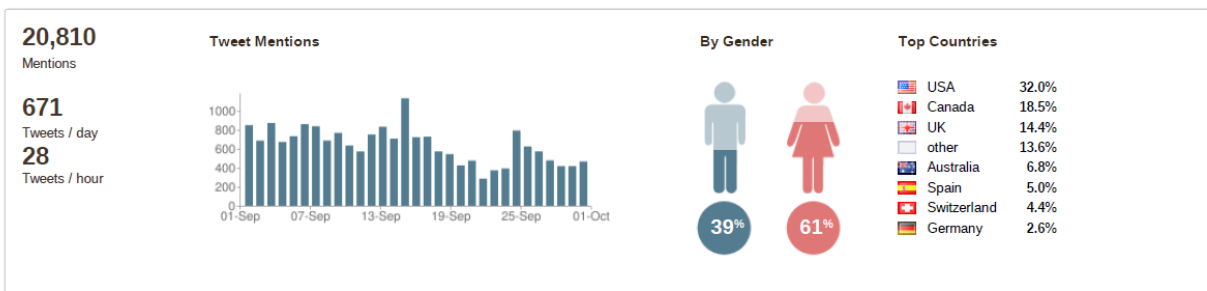
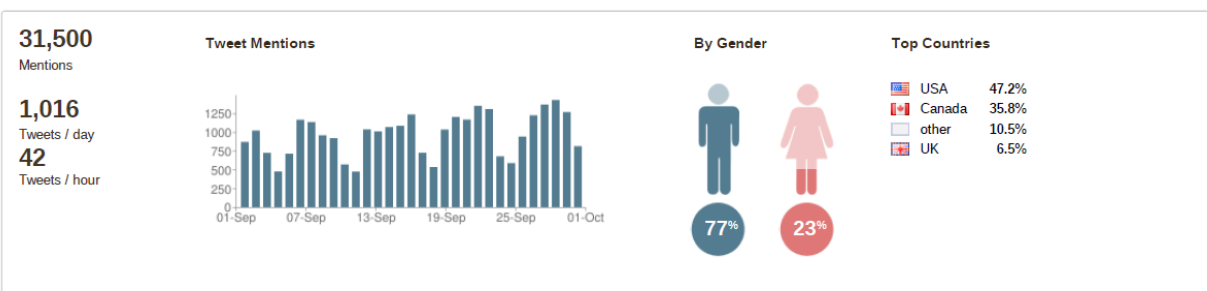


Figure 2. Data from Query 2: "harvest16" between 01-Sep-2016 and 01-Oct-2016

Tweets



Different accompanying hashtags were associated with the key hashtags that were the focus of this study. The hashtag #harvest16 did not have as many accompanying hashtags in each tweet but those that were present were related to the agricultural industry in some way. As shown in Figure 3 below, among the top ten associated hashtags were #corn, #soybeans, and then #farm365. However, #farm365 had accompanying hashtags that were used far more frequently with each tweet, as shown by the higher percentages. Among the top ten associated hashtags were #govegan, #vegan, and #animalrights. The remainder of the hashtags were agricultural-related terms, with #milktruth and #harvest16 both at four percent.

Figure 4.

Query: "farm365" between 01-Sep-2016 and 01-Oct-2016

Top Hashtags

Top 10 hashtags used in Tweets with estimated number of mentions.

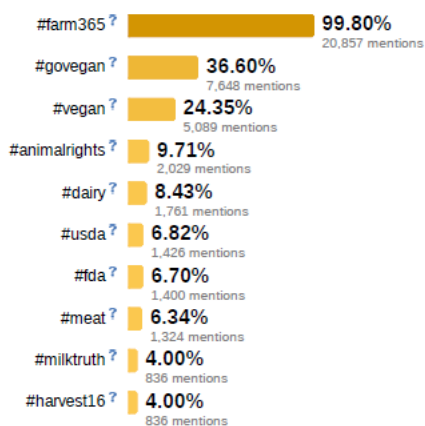
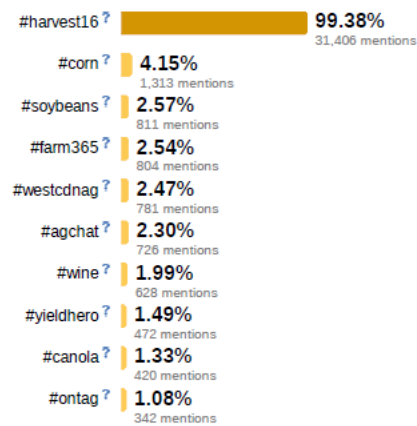


Figure 5.

Query: "harvest16" between 01-Sep-2016 and 01-Oct-2016

Top Hashtags

Top 10 hashtags used in Tweets with estimated number of mentions.



The top ten most popular tweets were analyzed for each query to determine overall themes. The popularity of these tweets was determined by how often they were retweeted. These tweets were analyzed and then sorted into themes. The themes were: harvest, living on a farm, farm education, farm data, farm safety, animal rights, and veganism. Tweets under the harvest theme shared information about crops and how that year's harvest was proceeding. Tweets about living on the farm contained emotions and personal experiences. Tweets that fell in the category of

farm education asked questions or shared information. Farm data tweets contained data, links, and charts. Tweets about farm safety contained safety warnings and advice. Tweets that fell into the categories of animal rights and veganism promoted those terms. An example tweet for each theme is shown in the table below, while screenshots of the original tweets can be found in the Appendix. All of the top tweets for the hashtag #farm365 related to the themes of animal rights and veganism, which promote vegan agriculture over traditional agriculture. For example, the top tweet for #harvest16 by user @foodswineohio shared the following message:

“Be Safe! Double check to be sure curious little ones didn't follow you out, before moving machinery”, accompanied by an image of a child in front of a piece of farming equipment (see Figure 5 in the Appendix).

This tweet was categorized into the farm safety theme. On the other hand, the top tweet for #farm365 by user @judy_tweets shared the following message:

“#BeKind #GoVegan #veganuary #vegan #farm365 #compassion #kindness #Speciesism #farmlife #empathy” accompanied by an image from Vegan Future Now.

These tweets and the different themes associated with these hashtags show a clear difference in the messages being spread through the use of these two hashtags.

Table 1. Themes present in Tweets	
Theme	Example Tweet
Harvest	“Hard red wheat one of the best crops we have had in years! #harvest16 #farm365 #farm #vermillion https://t.co/HkFuyajMDJ ” see Figure 1 in the Appendix
Living on a farm	“#harvest16 is in full swing! Love this time of year! #drone #farm365 https://t.co/dEzAmWy3Oc ” see Figure 2 in the Appendix
Farm education	“This machine is used for A) digging holes. B) harvestin peas. C) all of the above. #harvest16 https://t.co/dH3O0e5Oou ” see Figure 3 in the Appendix

Farm data	“Here is how USDA #corn and #soybean yields have changed from Sep report to final over the past 25 years. #harvest16 https://t.co/uEOs7wXif1 ” see Figure 4 in the Appendix
Farm safety	“Be Safe! Double check to be sure curious little ones didn't follow you out, before moving machinery. harvest16 https://t.co/cI4hGEWaNH ” see Figure 5 in the Appendix
Animal rights	“Everyone who eats dairy products is complicit in the grisly deaths of these innocent young animals. #vegan #farm365 https://t.co/QpNLcw3Ijz ” see Figure 6 in the Appendix
Veganism	“#BeKind #GoVegan #veganuary #vegan #farm365 #compassion #kindness #Speciesism #farmlife #empathy https://t.co/msAVow3V8t ” see Figure 7 in the Appendix

Conclusion

The results of this study show that the agricultural hashtags #farm365 and #harvest16 are used in different ways on Twitter to share diverse messages. In particular, the hashtag #farm365 was “hijacked” and used to promote veganism and animal rights instead of traditional agriculture as expected. The key themes mentioned in the tweets were different, as #harvest16 was used by producers to share an inside look at farm life in order to promote and educate consumers.

Contrary to expectations, #farm365 was not used primarily by producers. Instead, #farm365 was used to promote veganism and animal rights. The hashtag #harvest16 was most often the only hashtag used in tweets, whereas #farm365 had two or more hashtags associated with each tweet.

Social media is increasingly important as these tweets can affect the perception of agriculture for third party viewers. It is therefore important for producers to continue to try to promote the industry through agricultural hashtags in order to educate consumers and to reconnect consumers to the agricultural industry. Practitioners should be aware of the messages being shared on Twitter through the use of these hashtags. With this mind, producers should continue to use the hashtag #farm365 in order to promote traditional agriculture.

Recommendations

Further research can be conducted based on this study. The hashtag #farm365 is used year round on social media platforms, whereas the hashtag #harvest16 was specific to the 2016 harvest. Therefore, comparisons of these hashtags can be made from year to year. Furthermore, individual studies can be conducted on each specific hashtag to determine the overall messages associated with each agricultural hashtag. Since the hashtag #farm365 is being used to spread messages about non-traditional farming, veganism, and animal rights, a specific case study could be conducted to determine whether or not this hashtag was originally intended to promote traditional agriculture. Producers could also be surveyed to identify the most commonly used agricultural hashtags. Social media platforms are ever-evolving, so it is imperative that innovators in the agricultural industry continue to evaluate the use of agricultural hashtags and the messages they spread.

Bibliography

“Fast Facts about Agriculture.” *American Farm Bureau Federation*. AFBF’s Food and Farm Facts book 2015. Web. 11 April 2017.

Meyers, Courtney, Kelsey Shaw, Erica Irlbeck, David Doerfert, Katie Abrams, and Chris Morgan. “Identifying Agriculturists’ Online Communication Tool Training Needs.” *Journal of Applied Communications*. Vol. 99, No. 3. 6-20. 2015. Web. 11 April. 2017.

Moore, Madeline L., Courtney Meyers, Erica Irlbeck, and Scott Burris. “U.S. Agricultural Commodity Organizations’ Use of Blogs as a Communications Tool.” *Journal of Applied Communications*. Vol. 99, No. 2. 61-75. 2015. Web. 17 Dec. 2015.

- Pritchett, Kelly M., Traci L. Naile, Theresa P. Murphrey and Lauren F. Reeves. "Participant Satisfaction Related to Social Presence in Agricultural Conversations using Twitter: Implications for Agricultural Communications." *Journal of Applied Communication*. Vol. 98, No. 3. 32-47. 2014. Web. 4 Jan. 2016.
- Sanderson, Jimmy, et al. "'How Could Anyone Have Predicted That #Askjameis Would Go Horribly Wrong?' Public Relations, Social Media, And Hashtag Hijacking." *Public Relations 42.1* (2016):31-37. *Communications & Mass Media Complete*. Web. 28 Jan. 2017.
- "Using hashtags on Twitter." *Help Center*. Twitter, Inc. 2016. Web. 4 Jan. 2016.
- Wagler, Adam and Karen J. Cannon. "Exploring Ways Social Media Data Inform Public Issues Communication: An Analysis of Twitter Conversation during the 2012-2013 Drought in Nebraska." *Journal of Applied Communication*. Vol. 99, No. 2. 44-60. 2015. Web. 17 Dec. 2015.

Appendix

Figure 1. Harvest theme tweet



Figure 2. Living on a farm theme tweet



Figure 3. Farm education theme tweet



Figure 4. Farm data theme tweet

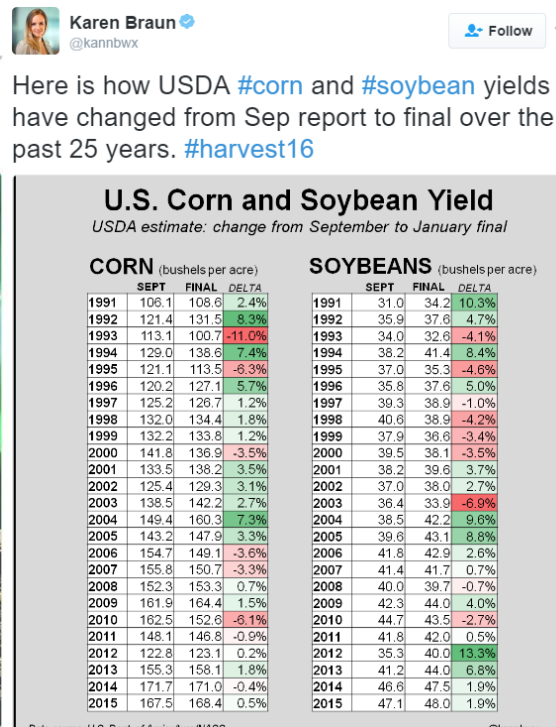


Figure 5. Farm safety theme tweet



Figure 6. Animal rights theme tweet

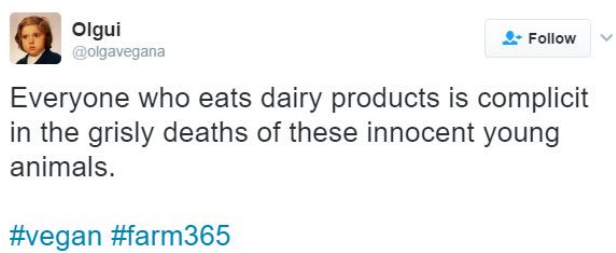


Figure 7. Veganism theme tweet

